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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,501	03/01/2002	Frank Johannes Alfred Dirk Bakkeren	ACO 2701 PIUS	7915

7590 07/09/2004

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EXAMINER
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BERMAN, SUSAN W

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/018,501

Applicant(s)

BAKKEREN ET AL.

Examiner

Susan W Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7-9 and 11-15 is/are rejected.
- 7) ☐ Claim(s) 4 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

The rejections of claim 10 under 35 U.S.C. 101 and 35 U.S.C. 112, second paragraph, are moot since claim 10 has been canceled.

***Response to Arguments***

Applicant's arguments filed 04-19-2004 have been fully considered but they are not persuasive. Applicant argues that Moyer et al disclose a radiation curable composition and that no oxidative drying occurs. Applicant further argues that oxidative drying would require a large number of the thiol compound derived from fatty acids disclosed by Moyer et al. These arguments are not persuasive for the following reasons. Applicant's claims are drawn to a composition requiring at least the components set forth in claim 1 wherein the condensation products are oxidatively drying, not to a process of oxidative drying. It is agreed that Moyer et al do not mention oxidative drying. However, the condensation products disclosed by Moyer et al would be expected to be oxidatively drying since unsaturated fatty acid groups are incorporated into the compound by reaction of unsaturated long chain fatty acids with polyols. Applicant has not provided any evidence of record to show that the disclosed compounds are not capable of oxidatively drying to support the allegation made. Applicant argues that Moyer et al do not provide motivation to substitute oxidative drying for radiation curing. This argument is not persuasive because applicant's claimed composition comprises a photoinitiator and is thus intended to be radiation curable, as is the composition taught by Moyer et al. Applicant would have been expected to consider analogous radiation curable compositions comprising a photoinitiator disclosed in the prior art. With respect to Ostlie et al, one of ordinary skill in the art at the time of the invention would have been motivated to combine the teachings of Ostlie et al and Moyer et al because both references teach radiation curable compositions comprising polythiol and polyene components. There is no requirement that the prior art teach the improvement sought by applicant, only that there is motivation to combine the teachings of the

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references. It is noted that Moyer et al do not teach polycarboxylic acid components for the disclosed compounds, however, this species is not required in the instant claims.

### *Specification*

The abstract of the disclosure is objected to because the Abstract is not printed on a separate page. The PCT cover sheet contains extraneous text that is not part of the Abstract. Correction is required. See MPEP § 608.01(b).

### *Claim Rejections under 35 USC § 102 or 103*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 7, 9, 11-13 and 15 are rejected under 35 U.S.C. 102(b) as anticipated by Moyer et al (4,078,118). Moyer et al disclose pentaerythritol esters of mercapto acids plus long chain fatty acids. The esters are obtained by reacting a polyol with a mixture of a monocarboxylic acid containing a thiol group and long chain fatty acid (column 1, line 51, to column 2, line 7). A small group of operable saturated and unsaturated fatty acids, including oleic and linoleic acids, are taught in column 2, lines 3-6. The disclosed esters containing thiol groups meet the requirement for both a thiol compound (a) and an oxidatively drying polyunsaturated condensation product (b) when the fatty acid includes unsaturated fatty acid. Applicant discloses in the instant specification that oxidatively drying polyunsaturated condensation products are obtained from unsaturated fatty acids (bridging pages 2-3). Compositions

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comprising the pentaerythritol esters of mercapto acids obtained from unsaturated long chain fatty acid compound (Applicant's thiol compound and oxidatively drying condensation product in claim 1), a photoinitiator, a polyene and a polythiol compound are taught (see Formulation A in Example 4). The polyene is encompassed by the comprising language in the instant claims.

Compositions comprising pentaerythritol ester compounds obtained from unsaturated fatty acids, such as oleic or linoleic acids, and a photoinitiator, with or without a second polythiol compound, disclosed by Moyer et al are considered to anticipate the instantly claimed compositions. With respect to claims 2 and 11, Moyer et al disclose compositions wherein the ratio of unsaturated groups to -SH functional groups is as claimed. It is noted that the claims do not specify whether or not the unsaturated groups are those in the condensation products. Therefore, the claims are interpreted to include all components in the composition comprising unsaturated groups. Moyer et al teach polyenes having unsaturated groups, as well as the disclosed esters obtained from unsaturated fatty acids. With respect to claims 3 and 12, Moyer et al teach 2 to 98 percent by weight of the ester compound. With respect to claims 5 and 13, the disclosed compositions do not contain solvents. With respect to claim 7, several of the disclosed photoinitiators are activatable by visible light.

Claims 1-3, 5, 7, 9, 11-13 and 15 are rejected under 35 U.S.C. 103(a) as obvious over Moyer et al (4,078,118). See the discussion of the disclosure of Moyer et al above. It would have been obvious to one skilled in the art at the time of the invention to select one or more unsaturated fatty acids from the fatty acids disclosed for preparation of the pentaerythritol esters of mercapto acids plus long chain fatty acid compound, as taught by Moyer et al, in the absence of a showing of unexpected results obtained by such a selection. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of successfully providing a useful product for imparting improved slip properties in radiation curable compositions, as taught by Moyer et al.

Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as obvious over Moyer et al (4,078,118), as applied to claims 1-3, 5, 7 and 9-13 above, further in view of Ostlie (5,876,805). See the discussion of the disclosure of Moyer et al above. Ostlie discloses visible light polymerizable thiol-ene compositions comprising at least one acyl phosphine oxide photoinitiator. See column 3, line 66, to column 4, line 67, and column 6, lines 13-38. It would have been obvious to one skilled in the art at the time of the invention to employ an acyl phosphine oxide as the photoinitiator in the thiol-ene compositions disclosed by Moyer et al, as taught by Ostlie in analogous compositions. Moyer et al provide motivation by teaching the use of sunlight for initiation. Ostlie provides motivation by teaching fast cure times and addition of extender pigments and their advantages. Further motivation is provided because Moyer et al teach pentaerythritol esters of mercapto acids plus long chain fatty acid compound Ostlie teaches that mercatopropionate tetraesters of pentaerythritol are preferred polythiols.

#### *Allowable Subject Matter*

Claims 4 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The cited prior art does not suggest isocyanates for preparation of the disclosed esters or aqueous coating compositions.

#### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

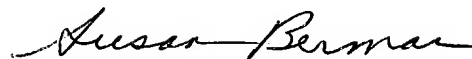
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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Susan W Berman  
Primary Examiner  
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